

Remarks

The Examiner's Office action mailed June 9, 2003, which rejected pending claims 1-68, has been reviewed, and certain amendments have been made to the application. In view of the amendments and the following remarks, Applicants respectfully submit that the application is in condition for allowance.

The limitations of original independent claim 7 have been written into claim 8, which originally depended from claim 7. Therefore, claim 7 has been cancelled, and claim 8 is now an independent claim.

Claim 11 has been amended. The added limitations regarding the upper portion of the tower have basis in original claims 24, 27, 26, and/or 53. The basis for the other added limitations is readily apparent. Therefore, no new search is required.

The limitations of original independent claim 63 have been written into claim 64, which originally depended from claim 63. Therefore, claim 63 has been cancelled, and claim 64 is now an independent claim.

Claim 68 has been amended. The added limitations regarding the upper portion of the tower have basis in original claims 24, 27, 26, and/or 53. The basis for the other added limitations is readily apparent. Therefore, no new search is required.

The Examiner rejected original claim 63 under 35 U.S.C. § 102(b) as being anticipated by GB Publication No. 2347319, Appel et al. ("Appel").

The Examiner rejected original claims 1-62 and 64-68 under 35 U.S.C. § 103 as being unpatentable by GB Publication No. 2347319, Appel et al. ("Appel") in view of U.S. Patent No. 5,046,066, issued to Ariyavisitakul ("Ariyavisitakul"), and U.S. Patent No. 5,982,322, issued to Bickley ("Bickley").

The following is a quote from 35 U.S.C. § 102(b):

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.

Appel was published August 30, 2000. The present application was filed November 22, 2000. Therefore, Appel was not described in a printed publication more than one year prior to the date of the present application. Therefore, Appel is not prior art under 35 U.S.C. § 102(b) and cannot be used to reject the present application.

Since Appel is not prior art under 35 U.S.C. § 102(b), and because all rejections were made on Appel, either under § 102 or § 103, all rejections are improper. Withdrawal of the rejection of all claims respectfully is requested. *Why? only for 102(b) not for 103*

Further, specifically regarding original claim 63, Appel discloses a CDMA system. Applicants' original claim 63 required a multipoint multichannel distribution service (MMDS) based communication signal. Therefore, Appel did not anticipate this claim. For this same reason, neither Ariyavisitakul nor Bickley anticipated this claim. Therefore, because original claim 63 has been written into currently amended claim 64, Applicants respectfully request withdrawal of the rejection of amended claim 64 for this additional reason.

Note that the limitations of original claim 63 have been written into claim 64 for reasons unrelated to Appel. Since Appel is not prior art, the amendment to claim 64 was not made to overcome Appel. Similarly, the amendment to claim 64 was not made to overcome an obviousness rejection since the Examiner did not reject claim 63 under § 103. Further, although the Examiner rejected original claim 64 for the same reasons as set forth in original claim 1, original claim 64 included limitations not present in original claim 1, and could not be rejected for the same reason as original claim 1. These additional limitations were not found in Appel, Ariyavisitakul, or Bickley.

Regarding the § 103 rejection, it should be noted that Appel does not disclose, teach, or suggest a stabilizing system as required by Applicants' claims. As noted by the Examiner, Appel discloses a GPS receiver. Column 15, lines 4-26. However, Appel does not disclose, teach, or suggest that these GPS signals are used to generate a stable timing signal or that the stable timing signal is used to generate a stable oscillator signal. GPS signals can be used for reasons unrelated to systems and methods of Applicants' claims. Further, while Appel discloses "synthesizer circuitry" at column 15, line 23, Appel does not disclose that the synthesizer circuitry is used to convert frequency signals or how the signals are generated.

More importantly, Applicants claims do not require circuitry that synthesizes frequencies. The relevant limitations of Applicants claims, such as claim 1, require a converting system configured to convert the frequency of a communication signal using the stable timing signal. For this additional reason, withdrawal of the rejection of all claims respectfully is requested.

Regarding Bickley and the § 103 rejection, Bickley does not disclose, teach, or suggest the systems or methods required by Applicants' claims. Bickley does not disclose, teach, or suggest a stabilizing system configured to generate a stable timing signal and a converting system configured to convert the communication signal from a frequency to a stable lower frequency using the stable timing signal, as in Applicants' claim 1. Bickley does not disclose, teach, or suggest, for example, that a GPS signal is used to generate a stable timing based signal and that the stable timing based signal is used to convert a communication signal from a first frequency to a second stable frequency, and that the converted communication signal at the stable frequency is further transmitted, as claimed by Applicants.

Bickley discloses a hand-held radio that includes a transceiver. The transceiver desirably operates in burst mode and transmits during narrow time windows calculated using the local real time clock output slaved to time/frequency information derived from a geolocation means. Column 2, lines 47-50. The hand-held radio transmits and receives wireless communications only.

The hand-held radio is used for search and rescue operations for rescuing personnel. Column 3, lines 66-67 and column 4, lines 54-67. The hand-held radio transmits signals to a satellite, and the satellite communicates with a base station. Column 4, lines 1-4. The hand-held radio receives signals in a satellite communication link (SATCOM) mode using a satellite link or line of site (LOS) mode using a radio link. Column 4, lines 19-20 and column 5, lines 3-6.

The hand-held radio calculates its local position based on data received from the geolocation transceiver. Column 4, lines 33-39. The hand-held radio then transmits the local position information to the satellite, and the satellite transmits the local position information to the base station. Column 4, lines 46-53.

Bickley does not disclose a stabilizing system. The hand-held radio of Bickley includes a real time clock and a GPS receiver that are coupled to a data processor. The real time clock provides timing and frequency control signals to the data processor and the transceiver. The real time clock is slaved using the time/frequency information obtained from the geolocation receiver. The time/frequency information is optionally coupled from the geolocation receiver via the data processor or to the clock. Column 5, lines 22-42.

Signals that are received by the hand-held radio are filtered, amplified, and mixed with a frequency synthesized signal. Column 6, lines 63-67. The resulting signal is then amplified, demodulated, and sent to the data processor, the crypto unit, or an audio module. Column 7, lines 1-16. Decrypted audio ultimately is passed to a voice transducer. Column 7, lines 33-38. Alternately, output data from the crypto unit instructs the data processor to present data on a display. Column 7, lines 38-40.

Carrier frequency signals are generated from the frequency synthesizer to the mixer. As noted above, these signals are SATCOM signals and LOS signals. The frequency synthesizer also generates signals for modulation and demodulation. Column 8, lines 8-13. The output of the frequency synthesizer is controlled by data processor. Column 8, lines 13-15.

Finally, Bickley notes that the frequency synthesizer is desirably an oscillator "well known in the art for generating a variety of predetermined frequencies derived from a stable master oscillator which in turn is calibrated by accurate timing or frequency signals from clock 41 or GPS receiver 34 via data processor 38." Column 8, lines 3-7.

Bickley does not disclose what comprises the master oscillator, how the predetermined frequencies are derived, whether the clock, the GPS receiver, both, or neither are used to generate signals, what is meant by "calibrated," or whether the data processor processes one or more signals to generate another signal used for the master oscillator. Other than the brief reference noted above, there is no discussion of a master oscillator or what systems or processes are involved with the master oscillator. There is no discussion of how a GPS signal might be used in a master oscillator to create a stabilized oscillator signal, as required by Applicants' claims. There is no discussion of these limitations because some frequency synthesizers "are known in the art" and not germane to the Bickley invention.

Further, the received and processed signals of Bickley are not transmitted. They are processed to generate information via a voice transducer or a display.

Moreover, since the signals received by the hand-held radio of Bickley are not further transmitted, such as from the upper portion of a communication tower to the bottom of the lower portion of the communication tower, there would be no need to consider such problems that led to Applicants' invention.

The system of Bickley does not down convert signals to transmit the signals over a fiber optic cable or coaxial cable to the lower portion of a cell tower. Bickley synthesizes

frequencies in the frequency synthesizer, it does not convert frequencies in the synthesizer using a stable timing signal.

Therefore, Bickley does not teach, disclose, or suggest the limitations of Applicants' claims. Moreover, there is no motivation, teaching or suggestion to combine Bickley with either of the systems of Appel or Ariyavisitakul. Additionally, it is not evident that the Bickley system would work with Applicants' system or the systems of Ariyavisitakul or Appel as implied by the Examiner. Neither Bickley alone nor in combination with Appel and/or Ariyavisitakul teaches the systems and methods of Applicants claims. For these additional reasons, withdrawal of the rejection of the claims respectfully is requested.

Regarding Ariyavisitakul and the § 103 rejection, Ariyavisitakul does not disclose, teach, or suggest the systems or methods required by Applicants' claims. Further, Ariyavisitakul does not disclose, teach, or suggest a stabilizing system configured to generate a stable timing signal and a converting system configured to convert a communication signal from a frequency to a stable lower frequency using the stable timing signal, as in Applicants' claim 1. Ariyavisitakul does not disclose, teach, or suggest, for example, that a GPS based signal is used to generate a stable timing signal and that the stable timing signal is used to convert a communication signal from a first frequency to a second stable frequency, and that the converted communication signal is further transmitted, as in Applicants' claims.

Therefore, Ariyavisitakul does not teach, disclose, or suggest the limitations of Applicants' claims. Moreover, there is no motivation, teaching, or suggestion to combine Ariyavisitakul with either of the systems of Appel or Bickley. Neither Ariyavisitakul alone nor in combination with Appel and/or Bickley teaches the systems and methods of Applicants claims. For these additional reasons, withdrawal of the rejection of the claims respectfully is requested.

Further, the Examiner states as the "motivation, teaching, or suggestion to combine" that it would have been obvious to modify Appel to down convert to a lower frequency before modulating electrical signals to optical signals "for allowing greater flexibility in allocating bandwidth over the optical link and the wireless link." The Examiner pulled this "teaching" for combining from Ariyavisitakul at column 5, lines 59-60. Ariyavisitakul stated at column 5, lines 57-59 that frequency conversion facilities had been added to the transmission system in the remote antenna unit and in the base station. So, the addition of the frequency

conversion facilities (see Figure 4) to the existing optical transmission system (see Figure 3) in Ariyavisitakul allowed greater flexibility in allocating bandwidth.

Of course, the whole point of the stabilizing system of Applicants' claims is not to allow greater flexibility in allocating bandwidth, but to stabilize the drift of the local oscillator so that a communication signal can be converted with a greater accuracy. Applicants are not claiming the added frequency conversion facilities of Ariyavisitakul. The "motivation or teaching" provided by the Examiner is meaningless in the presently claimed system and would not have provided a reason for one skilled in the art to create a stabilizing system as required by Applicants' claims. For this additional reason, withdrawal of the rejection of the claims respectfully is requested.

Additionally, the Examiner finds that "since Appel discloses a GPS receiver, it is clear that the frequency synthesizer in Appel's teaching would obviously comprise a stable oscillator which is calibrated by the stable timing signal from the GPS receiver." The Examiner makes this statement with absolutely no proof. Appel does not disclose, teach, or suggest that the GPS signals are used in any oscillator. Certainly, Appel does not disclose, teach, or suggest that a stable local oscillator is calibrated by a timing signal from a GPS receiver.

Of course, Appel could not have considered using the teachings of Bickley as stated by the Examiner since Appel was filed before Bickley issued, and Bickley was not published prior to issuance.

Further, the Examiner states that "it is clear that the stabilizing system would comprise a stabilized local oscillator and the converting system would comprise a block converter as claimed." Again, the Examiner has not pointed to any reference that discloses, teaches, or suggests this statement. The Examiner has not even shown that a block converter is present in any of the references.

Further, the Examiner finds that Bickley should be combined with Appel "for synchronization purposes." However, Bickley does not describe synchronizing frequencies. It is not apparent what the Examiner means by synchronizing purposes or how that applies to the Applicants' claims.

The Examiner states that Bickley teaches synchronizing an oscillator with a GPS timing signal to account for drift rates. Office action, page 3, last sentence. Bickley does not teach anything about drift rates. Bickley doesn't even mention drift rates.

Applicants teach in the present application that the block converter is subject to drift. Therefore, the present invention generates a stabilized local oscillator signal to be used to convert the frequency of a communication signal to a different stable frequency so that the different stable frequency remains at or approximately within a desired frequency.

Since the input to the stabilized local oscillator is stable and accurate, the output of the stabilized local oscillator remains stable and at a more accurate frequency. Thus, the output of the stabilized local oscillator does not drift from, and remains approximately within, the desired frequency. This is an advance over prior systems in which the frequency of the local oscillator drifted, thereby causing the output of the local oscillator to drift. This caused the output of the converter to drift from the desired frequency. See the present Application, page 4, line 15; page 6, line 12; page 8, lines 15-19; page 12, lines 14-19; page 16, line 19-page 17, line 2; page etc.

The Examiner cannot use the teachings of Applicants own application to reject the claims. The Examiner is using impermissible hindsight.

Bickley also does not teach synchronizing an oscillator with anything. Regarding synchronization, Bickley only teaches synchronizing bit rates for communication receivers in a base station and synchronizing data during encryption/decryption. See Figures 6, 9, and 10. Therefore, this "motivation" to combine also may not be used.

The Examiner is attempting to use impermissible hindsight to squeeze the teachings of three different references to fit the teachings of the present application and Applicants' claims. In making a rejection, the Examiner may not use the Applicants' own teachings against them to make a rejection. *In re Lee*, 61 USPQ2d 1430, 1434 (CAFC 2002).

Additionally, regarding the Examiner's proposed suggestions or motivations to combine as discussed above, the Examiner may not base a rejection on conclusory statements or meaningless reasons to combine references. Under an obviousness rejection, there must be a search and analysis of the prior art, including evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *In re Lee* at 1433. The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art" that would lead that individual to combine the relevant teachings of the references. *In re Lee* at 1434. Conclusory statements from the Examiner do not adequately address the issue of motivation to

combine. This factual inquiry of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. *In re Lee* at 1434.

The Examiner has not provided an objective teaching or suggestion to combine the references above. The reasons provided by the Examiner are meaningless and would not lead an individual to create the claimed invention. The Examiner is precluded from rejecting a claim based on conclusory statements and a lack of objective evidence. Therefore, for the additional reasons identified above, withdrawal of the rejection of claims 1, 7, 11, 14, 35, 41, 45, 57, 67, and 68 respectfully is requested.

For the reasons discussed above, Appel, Bickley, and Ariyavisitakul do not disclose, teach, or suggest the limitations of Applicants' claims 1, 7, 11, 14, 35, 41, 45, 57, 64, 67, and 68, alone or in combination. Therefore, Applicants submit that these claims are allowable. Withdrawal of the rejections respectfully is requested.

With regard to the claims depending from claims 1, 7, 11, 14, 35, 41, 45, 57, and 64, they contain all of the limitations of their respective base claims. Therefore, they also are believed to be allowable. Withdrawal of the rejection of the depending claims respectfully is requested.

Specifically regarding original dependent claims 27-28 and 53-54, the Examiner finds that since Appel discloses an upper and a lower portion of a tower, it would have been obvious that the GPS receiver for generating a stable timing signal can be located at the upper or lower portion of a tower for which the selected portion would receive better signals from GPS satellites. Again, the Examiner has attempted to provide a "motivation" to combine that is meaningless and not based on objective evidence.

The GPS receivers in prior art towers are located at the bottom of the towers. The GPS receivers receive the signals accurately. If the GPS receivers did not receive the GPS signals accurately, the prior art systems likely would not have operated properly, and the GPS receivers likely would have been relocated. Therefore, to state that one skilled in the art would have relocated the GPS receiver to the top of the tower to receive better signals is meaningless. Even so, the limitations of those claims are not met.

Conversely, one embodiment of the system of Applicants' claims locates a GPS receiver or other stable timing source at the upper portion of a communication tower so that GPS signals or other stable timing signals are not required to be transmitted from the bottom of the

tower to the upper portion of the tower. Because these signals are not required to be transmitted up the tower, they are less likely to have phase distortion, propagation delay, signal loss over the transmission medium or be distorted from interference from other RF sources, such as lightening or other RF sources. Locating a GPS receiver or other stable timing source at the upper portion of the communication tower is a significant advance in the art. The Examiner cannot use impermissible hindsight to provide a "motivation to combine" or provide reasons for obviousness that are meaningless and not objective.

The Examiner may not base a rejection on such conclusory statements, such as those based on common sense. Under an obviousness rejection, there must be a search and analysis of the prior art, including evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *In re Lee* at 1433. The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art" that would lead that individual to combine the relevant teachings of the references. *In re Lee* at 1434. Conclusory statements from the Examiner do not adequately address the issue of motivation to combine. This factual inquiry of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. *In re Lee* at 1434.

The Examiner has not provided an objective teaching or suggestion to combine the references or to modify the teachings of the references that would lead an individual to create the claimed invention. The Examiner is precluded from rejecting a claim based on conclusory statements. For these additional reasons, withdrawal of the rejection of claims 26-28 and 52-54 respectfully is requested.

The foregoing argument applies equally to currently amended claims 11 and 68. For this additional reason, withdrawal of the rejection of claims 11 and 68 respectfully is requested.

Additionally, specifically regarding dependent claims 39, 43, 51, 61, and 65 using a stable timing signal comprising a global positioning system based timing signal is not disclosed, taught, or suggested by Appel, Ariyavisitaku, or Bickley, alone or in combination. For this additional reason, withdrawal of the rejection of claims 39, 43, 51, 61, and 65 respectfully is requested.

Additionally, specifically regarding dependent claims 30 and 56, receiving a communication signal comprising a multipoint multichannel distribution service based communication signal is not disclosed, taught, or suggested by Appel, Ariyavisitaku, or Bickley, alone or in combination. For this additional reason, withdrawal of the rejection of claims 30 and 55 respectfully is requested.

The foregoing argument applies equally to currently amended claims 11, 41, and 64. For this additional reason, withdrawal of the rejection of claims 11, 41, and 64 respectfully is requested.

If the Examiner continues to believe that any portion or portions of the claims can be rejected over Appel, Ariyavisitaku, or Bickley, alone or in combination, or the Examiner otherwise disagrees with the Remarks above, Applicants specifically request that the Examiner respond to all arguments made in the Remarks section of this Response above, specifically including a detailed explanation of objective reasons for combining the references. Such a detailed explanation is needed by Applicants so that Applicants can adequately respond to a continued rejection. Applicants thank the Examiner in advance for cooperation in this respect.

The references cited by the Examiner and made of record have been reviewed by Applicants. Applicants have no further remarks with regard to the cited references.

Based on the foregoing, it is submitted that the Applicants' invention as defined by the claims is patentable over the references of record. Issuance of a Notice of Allowance is solicited.

Applicants' attorney welcomes the opportunity to discuss the case with the Examiner in the event that there are any questions or comments regarding the response or the application.

This is intended to be a complete response to the Examiner's Office action mailed on June 9, 2003.

Respectfully Submitted,

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